

Only Skin Deep: Telepathology and Kidney Recovery

TODAY'S PRESENTER



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Meet Our Moderator



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Clinical Education Supervisor



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Meet Our Presenter



Nicole Barry

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Only Skin Deep: Telepathology & Kidney Procurement

Presented by: Nicole Barry LPN, CTP

Moderated by: Abdulwahab Al-Saleh MSN, RN CTPC



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| Learning Objectives

- Discuss the current pitfalls of kidney biopsies.
- Identify the benefits of standardized biopsy criteria.
- Demonstrate an understanding of the importance of transplant pathology expertise when reading renal biopsies.



| Disclosures

- Donor Network of Arizona contracts with Specialist Direct Inc.(SDI) for telepathology needs throughout the procurement process.
- Mention of SDI, services rendered, and outcomes do not constitute an endorsement.

| But first... A story.



A Tale of Two Hospitals



Hospital A

- Rural
- Limited pathology services
- No transplant pathology expertise
- Read may take additional time



Hospital B

- Metropolitan
- Extensive pathology services
- No transplant pathology expertise
- Read may take additional time



What is the biggest challenge with these two hospitals?



“When in doubt I always over-read the biopsy, that way I’m being as protective as possible.”

“I’m not a transplant pathologist, I’m not sure what they’re looking for specifically.”

“Do you really want a tired pathologist who doesn’t read these frequently doing this?”

| The Problem

- Lack of standardization in how biopsies are collected, prepared, read, and reported impact allocation efficiency
- Pathologist experience is the primary cause for variation in biopsy reading and reliability

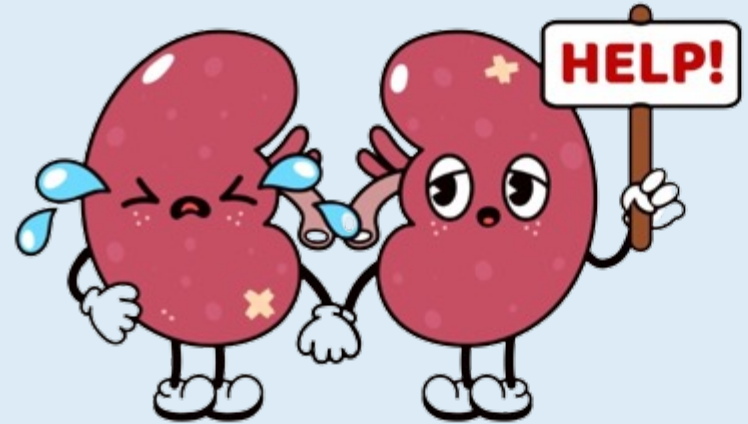


| Kidney Interpretation Challenges

1. Challenges with accuracy and variance of interpretations
2. Dependent upon local hospitals/physicians to read cases
3. Lack of specialty specific pathology, such as liver and kidney
4. Inability to receive timely interpretations, especially after hours
5. Poor access to quality images
6. Inability to easily share digital images
7. Often need to spend time and money to courier slides

| The Impact

- Biopsies can help clinicians on both the procurement side & transplant side ensure these gifts are healthy enough to help another patient.
- The challenges detailed lead to over-biopsying, under & over reading and an overall inconsistent practice surrounding a critical decision point.
- All-in-all impacting the number of kidneys available for transplant

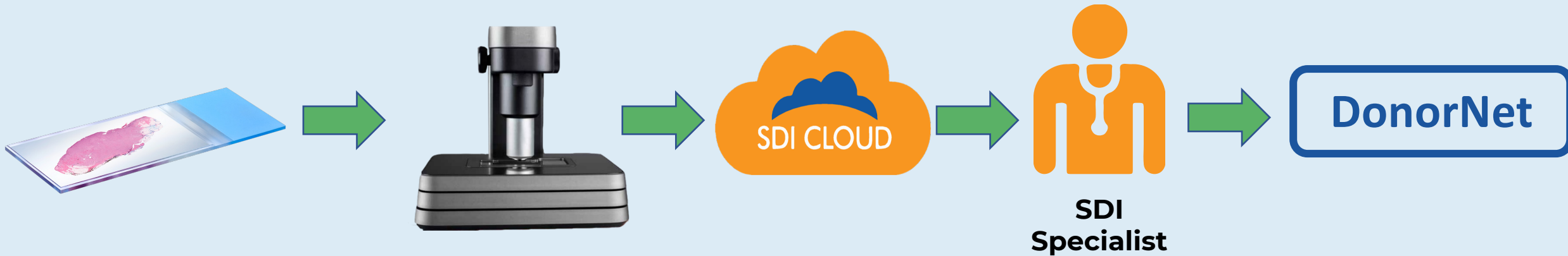


An aerial photograph of a large football stadium filled with spectators. The field is green with white yard lines and the Philadelphia Eagles logo in the center. Large advertisements for 'xfinity' and 'American Airlines' are visible on the stadium's facade. The text 'OPTN National Kidney Waitlist' is overlaid in large yellow letters across the center of the image.

OPTN National Kidney Waitlist

92,000 Waiting

| Telepathology Workflow



| Background & Purpose

- November 2021 - OPTN OPO Committee discussed that there is a “lack of standardization in how biopsies are collected, prepared, read and reported impacts allocation efficiencies”
- Pathologist experience identified as primary cause for variation in biopsy reading and reliability
- Consistent standards in the recovery and reporting of kidney biopsies are critical to decrease organ discards
- Kidney discard rate continues to climb - **21%**

| Asking the Right Question

Hypothesis

A more clinically consistent and reproducible system of evaluating procurement biopsy results has the potential to significantly increase the number of organs successfully transplanted.

A dedicated team of renal subspecialists and pathologists with transplant case experience is superior to interpretations by general pathologists for the determination of organ suitability for transplantation

Methods

Prospective blinded comparative interpretation at DNA from 11/1/2022 to 4/13/2023

100 deceased organ donors with a procurement kidney biopsy performed. 194 total kidneys (98 left, 96 right)

All biopsies were evaluated by the donor hospital (DH) and SDI

145 kidney biopsies were also evaluated by major transplant center (TXCR) with dedicated transplant pathologist capabilities

Business Intelligence team collated data using the Cohen-Kappa methodology

| SDI & Donor Hospital (DH)

Cohort	Good	SDI Good	DH Good	Bad	
SDI	In Agreement: Optimal	Disagreement: Optimal	Disagreement: Sub-Optimal	In Agreement: Sub-optimal	
DH	Optimal	Sub-Optimal	Optimal	Sub-Optimal	Total
# of Kidneys	61	65	14	54	194
Transplanted	48	47	5	20	120
% Tx'd	79%	72%	36%	37%	62%
# DGF	26	28	4	10	68
% DGF*	54%	60%	80%	50%	57%

| The Gist

1

- Over reading of biopsies conducted at donor hospitals *is* happening

2

- 18 kidneys were in jeopardy of being over-read

3

- Conversely, 9 kidneys were *under* read by the donor hospital

| SDI & Transplant Center (TXCR)

Cohort	Good	SDI Good	TXCR Good	Bad	
SDI Eval	In Agreement: Optimal	Disagreement: Optimal	Disagreement: Sub-Optimal	In Agreement: Sub-Optimal	
TXCR Eval	Optimal	Sub-Optimal	Optimal	Sub-Optimal	Total
# of Kidneys	26	65	4	50	145
Transplanted	24	44	4	17	89
% Tx'd	92%	68%	100%	34%	61%
# DGF	15	27	4	8	54
% DGF*	63%	61%	100%	47%	61%

| The Gist

1

- Fewer discrepancies between reads

2

- Not *quite* an “apples to apples” comparison
 - Local TX center relies heavily on hylanization

3

- 8 kidneys saved from discard

Discussion

- Compared Readings
- Utilizing Central Reads
- Image Sharing
- Transplant Pathologists

8

8 kidneys transplanted that were on pathway to discard



Challenging current and long-standing processes

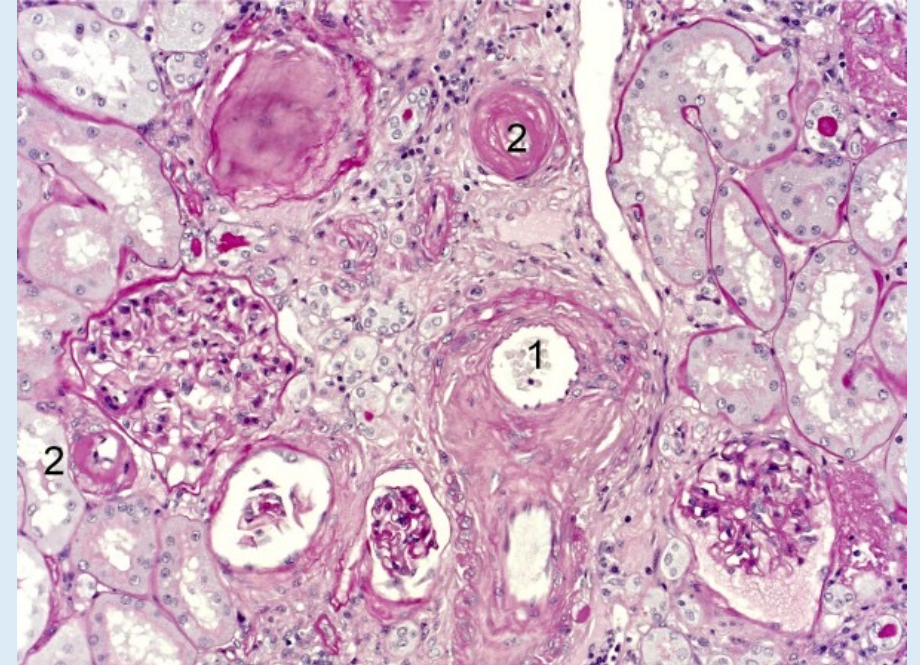
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It matters... what will you do to embrace change and reimagine the future?

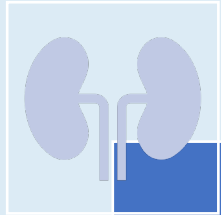
| What's Next?: Hyalinization

Arteriolar Hyalinization

- Narrowing of the arterioles of the kidney due to hyaline deposits.
- Often precedes interstitial fibrosis and atherosclerosis.
- Conflicting evidence about using arteriolar hyalinization as a novel metric to gauge delayed graft function (DGF) and post-transplant outcome.

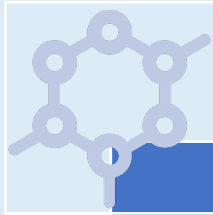


| A Change in Practice



Anuria

- < 100 mL in last 24 hours
- Current renal replacement



Diabetes

- A1C > 6.5%
- History of Diabetes



KDPI & Age

- KDPI > 85%
- Age > 60
- 50-59 with HTN , CVA or CR > 1.5 mg/dL

| A Change in Practice

“Official” read

- Completed by SDI
- Uploaded to UNET/ITransplant

Other BX reports

- Uploaded to UNET
- Available for comparison

Ad hoc BXs

- Hospital pathologist
Still utilized
- Copy & SDI read
completed per
protocol

| Creative Solutions

- Hospital partners have embraced our use of telepathology
- Histology Tech prepares frozen slide
- Uploaded and reviewed by SDI specialist
- Alleviates strain for on-call pathologist during late night/early morning ORs

| Conclusions

- Kidneys are less likely to get transplanted based on hospital pathologist interpretation
- Recognized changes in today's donor pool leads to increased efforts to utilize kidneys that are recovered
- Long standing biopsy practices challenged which resulted in 8 kidneys successfully transplanted within first 6 months



References

- Jay, C, Pugh, J, Halff, G, Abrahamian, G, Cigarroa, F, Washburn, K. Graft quality matters: Survival after simultaneous liver-kidney transplant according to KDPI. *Clin Transplant*. 2017; 31:e12933. <https://doi.org/10.1111/ctr.12933>
- Piccoli GB, Bonino LD, Campisi P, Vigotti FN, Ferraresi M, Fassio F, Brocheriou I, Porpiglia F, Restagno G. Chronic kidney disease, severe arterial and arteriolar sclerosis and kidney neoplasia: on the spectrum of kidney involvement in MELAS syndrome. *BMC Nephrol*. 2012 Feb 21;13:9. doi: 10.1186/1471-2369-13-9. PMID: 22353239; PMCID: PMC3306738.
- Farris AB, Colvin RB. Renal interstitial fibrosis: mechanisms and evaluation. *Curr Opin Nephrol Hypertens*. 2012 May;21(3):289-300. doi: 10.1097/MNH.0b013e3283521cfa. PMID: 22449945; PMC ID: PMC3354760

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Q & A

QUESTIONS & ANSWERS